

ABSTRACT

The present invention relates to multi-ribozymes and their use to target RNA in a
5 tissue-specific, target RNA-specific, or pathogen-specific manner for the treatment of
cancers, proliferative disease, and bacterial, parasitic and viral infections. More
specifically, the present invention relates to the use of virions and viral vectors to package
and deliver DNA encoding the multi-ribozymes to a host. The present invention relates to
the use of liposomes and lipid-DNA complexes to deliver DNA encoding ribozymes to a
10 host. Most specifically, the invention relates to the use of target specific virions to package
and deliver DNA comprising a target specific promoter and encoding a ribozyme(s) directed
to the target organism nucleic acids. The present invention further relates to a novel vectors
encoding a multi-ribozyme structure with enhanced 5' and/or 3' autocatalytically cleaving
ribozymes. The invention further relates to nucleotides encoding a multi-ribozyme
15 comprising one or more ribozyme cassettes which contain one or more trans-acting
ribozymes and one or more autocatalytically cleaving ribozyme sequences.

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